

17. *Virgulina Hemprichii* (Ehr.).
18. ——— tessera (Ehr.).
19. ——— americana (Ehr.).
20. *Bifarina saxipara* (Ehr.).
21. *Textilaria agglutinans*, D' Orb.
22. ——— gibbosa, D' Orb.
23. ——— striata, Ehr.
24. ——— globulosa, Ehr.
25. *Spiropecta americana*, Ehr.
26. ——— rosula, Ehr.
27. *Bigenerina digitata*, D' Orb.
28. *Heterostomella tumens* (Ehr.).
29. *Verneuilina pygmæa* (Egger).
30. *Globigerina cretacea*, D' Orb.
31. *Planorbulina ammonoides* (Riss.).
32. *Planulina ariminensis* (D' Orb.).

[To be continued.]

XXVIII.—*A Monograph of the Genus Thelyphonus.*

By ARTHUR G. BUTLER, F.L.S., F.Z.S., &c.

[Plate XIII.]

THE first monograph of this genus was that by M. Lucas in the 'Magasin de Zoologie' for 1835, in which six species were recognized, five of them being then described for the first time.

In 1843 Koch added five new forms in his 'Arachniden,' since which time three others have been diagnosed, one of them being probably the adult type of a previously described species.

I have now to add eight more species, which, considering that one of those described by M. Lucas is apparently a young form of the *T. proscorpio* of Latreille (hitherto confounded with *T. caudatus*, Linn.), will bring the number of known *Thelyphoni* up to twenty-one.

In the present paper I have separated the species into three sections according to the number of teeth on the second joint of the cheliceres. This important character, which appears to be very constant, has been much neglected in descriptions, and still more so in figures of the various species; very little attention has also been paid to the amount of rugosity, or the hairiness of the cheliceres, legs, &c., though in the order Coleoptera such characters are considered of the utmost importance, as, indeed, they may be shown to be in the present order.

The species of *Thelyphonus* in their general appearance remind one strongly of the two genera *Lucanus* and *Nepa*.

Fam. *Thelyphonidæ*, Wood.Genus *THELYPHONUS*, Latreille.

Section a. *Species with five spines on upperside of second joint of cheliceres.*

1. *Thelyphonus giganteus*.

*Thelyphonus giganteus*, Lucas, Monogr. in Guérin's Mag. de Zool. pl. 8 (1835); Koch, Arachn. x. p. 21, pls. 331, 332, figs. 767, 768 (1843).

*Thelyphonus excubitor*, Girard, Marcy's Report of Expl. of Red River, p. 265, fig. xvii. 1-4.

*Hab.* Mexico (*Oaxaca*). Obtained 1858, from M. Sallé. B.M.

2. *Thelyphonus mexicanus*, n. sp. Pl. XIII. fig. 1.

Colour chocolate-brown.

Allied to *T. giganteus*, one third smaller; cephalothorax narrower, more pointed in front and less rugose; abdomen with the sides much more parallel; the stigmatiform spots much better defined; the granular rugosities less distinct; cheliceres, excepting the second joint, more rugose and pilose, the latter joint broader; the teeth above quite different in arrangement, five in number, the first two and the fifth very short and blunt, the fourth slightly longer, the third twice the length of the fourth; a space between the second and third; third joint with external rugosities lengthened, rendering it distinctly spinous; fourth joint more pilose; legs less rugose, more pilose.

Length of cephalothorax and abdomen 1 inch  $9\frac{1}{2}$  lines.

*Hab.* Mexico. B.M.

3. *Thelyphonus brasilianus*.

*Thelyphonus brasilianus*, Koch, Arachn. x. p. 24, pl. 333. fig. 770 (1843).

*Hab.* Brazil. B.M.

4. *Thelyphonus amazonicus*, n. sp. Pl. XIII. fig. 2.

Seems allied to *T. spinimanus* and *T. antillanus*, but may be at once distinguished from both by its more cylindrical abdomen, which has no marginal ridge as in those species.

Colours: cephalothorax above black, somewhat shining; abdomen dull black; cheliceres shining, pitchy, last joint reddish; legs and caudal appendage reddish, varied with greyish black; entire central region below shining red.

Cephalothorax very slightly rugose, oblong, triangular in front; abdomen half as long again, subcylindrical; stigmatiform depressions ill-defined; tail setose throughout its entire

length: cheliceres quite smooth; second joint with five short teeth above, the second broad and prominent, the fifth very minute; third joint with one short tooth on its inner margin below; fourth joint with inner edge of terminal spine and outer edge of fixed finger of chelæ distinctly serrated; legs smooth.

Length  $7\frac{1}{2}$  lines.

*Hab.* Santarem, Alter do Chao (*Bates*). B.M.

#### 5. *Thelyphonus antillanus*.

*Thelyphonus antillanus*, Koch, Arachn. x. p. 29, pl. 334. fig. 773 (1843).

*Thelyphonus caudatus*, Guérin (nec Linn.), Cuvier's Règne Anim. Arach. p. 11, pl. 3. fig. 3 (1829-44).

*Thelyphonus antillanus*, Lucas, in Ramon de la Sagra's Hist. de l'île de Cuba, pl. 5. figs. 4, 4a (1857).

*Hab.* Haiti. B.M.

#### 6. *Thelyphonus rufimanus*.

*Thelyphonus rufimanus*, Lucas, Monogr. in Guérin's Mag. de Zool. pl. 8. fig. 1 (1835).

Adult. *Thelyphonus assamensis*, Stoliczka, Journ. Asiat. Soc. Bengal, xxxviii. p. 205, pl. 19. fig. 1 (1869).

*Hab.* "Java" (*Lucas*); "Assam" (*Stoliczka*); Silhet (*Stainsforth*); "India," from Mr. Argent. B.M.

Young specimens agree precisely with M. Lucas's figure; but I doubt the occurrence of this species in Java. It seems the commonest of all the *Thelyphoni*.

#### 7. *Thelyphonus proscorpio*.

*Thelyphonus proscorpio*, Latreille, Gen. Crust. & Ins. i. p. 130. n. 1; Koch, Arachn. x. p. 26, pl. 333. fig. 771 (1843).

*Thelyphonus caudatus*, Lucas (nec Linnæus), Monogr. in Guérin's Mag. de Zool. pl. 9. fig. 1 (1835).

? Young. *Thelyphonus angustus*, Lucas, *loc. cit.* pl. 10. fig. 3 (1835).

*Hab.* Bengal, presented by Gen. Hardwicke. B.M.

#### 8. *Thelyphonus linganus*.

*Thelyphonus linganus*, Koch, Arachn. x. p. 31, pl. 335. fig. 774 (1843).

*Hab.* "Linga" (*Koch*); Borneo, from Mr. Stevens. B.M.

#### 9. *Thelyphonus australianus*.

*Thelyphonus australianus*, Koch, Arachn. x. p. 33, pl. 335. fig. 775 (1843).

*Hab.* Australasia, from Sir J. Liddell (*Voy. Herald*); Aneiteum, New Hebrides, from Mr. Cuming. B.M.

#### 10. *Thelyphonus rufipes*.

*Thelyphonus rufipes*, Lucas, Monogr. in Guérin's Mag. de Zool. pl. 9. fig. 2 (1835); Koch, Arachn. x. p. 23, pl. 332. fig. 769 (1843).

*Hab.* —? B.M.

11. *Thelyphonus manilanus*.

*Thelyphonus manilanus* (sic), Koch, Arachn. x. p. 28, pl. 334. fig. 772 (1843).

*Hab.* Philippines. B.M.

12. *Thelyphonus proboscideus*, n. sp. Pl. XIII. fig. 3.

Colours: black above, with legs, tail, and apex of cephalothorax chestnut-red; cheliceres shining chocolate-brown; below shining pitchy, with basal joint of cheliceres, legs, tail, base and central region of abdomen more or less red.

Cephalothorax elongate, somewhat rugose, triangular in front, where it culminates in a depressed, well-defined, red tooth or spine; abdomen covered with minute granular rugosities; the segments minutely serrated, the last segment before the tail strongly excavated; stigmatiform depressions well defined: cheliceres varying in length, slightly wrinkled transversely; basal joint terminating anteriorly in an enormous spine, toothed internally at its base and pilose; second joint with five teeth above, the first and second large, separated by an interval from each other, the third, fourth, and fifth about half the length of the others, situated upon the interior margin, which is also somewhat pilose, interior surface bearing several denticulate rugosities, inferior margin bearing two teeth; third joint elongate, cylindrical, with one spine below; fourth joint distinctly rugose, with a large blunt protuberance on its lower surface; terminal spine very prominent, blunt, somewhat curved, and ending abruptly in a short conical tooth: chelæ pilose, dentated internally, the fixed finger, which is very short and spine-like, externally; when closed with the terminal spine of third joint they appear as a compact, quadrate, compressed plate, terminating above in two diverging teeth: legs and caudal appendage slightly rugose and pilose.

Length 1 inch.

*Hab.* Ceylon (*E. L. Layard*). B.M.

A very remarkable new species, and unlike any thing previously described in the genus.

Section *b.* *Species with two spines on upper surface of second joint of cheliceres.*

13. *Thelyphonus formosus*, n. sp. Pl. XIII. fig. 4.

Allied to *T. proboscideus*; colours the same; cephalothorax without apical spine, otherwise very similar; cheliceres somewhat long, nearly smooth, sparsely but distinctly punctured; basal joint of ordinary type; second joint slightly wrinkled, with only two minute teeth above, its inner surface somewhat

denticulate and pilose; third joint with one small tooth below; fourth joint with large, curved, terminal spine, terminating above in a minute blunt fork, one tooth of which is bifid, and below in a rounded protuberance; chelæ short and rounded, fixed finger short and somewhat conical, serrate and pilose externally; moveable finger long, curved, pilose; legs covered with granular rugosities.

Length 11 lines.

*Hab.* Moulmein (*Archdeacon Clerk*). B.M.

Section c. *Species with six spines on upperside of second joint of cheliceres.*

14. *Thelyphonus pugnator*, n. sp. Pl. XIII. fig. 5.

Allied to *T. manilanus* and *T. proboscideus*. Form of cephalothorax and abdomen as in the former; colours as in the latter species; cephalothorax less rugose than in *T. manilanus*; abdominal segments not serrated; cheliceres very long, nearly smooth, shining, clothed internally with long lake-red hairs; basal joint with short blunt spine, terminating in a small conical tooth; second joint with six small teeth above, an interval between each of them, the first smallest, the third largest; two minute teeth below; inner surface denticulate; third joint cylindrical, without tooth\*; fourth joint rather short, with very long terminal spine; chelæ long, flattened externally; the fixed finger broad, compressed, and strongly curved, serrated internally; movable finger long, nearly straight, bifid at its extremity, serrated on both edges, but most coarsely externally; legs covered with granular rugosities.

Length 1 inch 5 lines.

*Hab.* Philippines. B.M.

The most remarkable of all the species of *Thelyphonus*.

15. *Thelyphonus spinimanus*.

*Thelyphonus spinimanus*, Lucas, Monogr. in Guérin's Mag. de Zool. pl. 10. fig. 2 (1835).

Probably a New-World species.

16. *Thelyphonus Stimpsonii*.

*Thelyphonus Stimpsonii*, Wood, Proc. Acad. Nat. Sci. Philad. p. 312 (1861).

*Hab.* "Japan" (*Wood*); Hongkong (*J. Bowring, Esq.*). B.M.

\* On the left-hand chelicere there is a minute tubercle, which probably represents the missing tooth.

In our example the first tooth on the inner edge of the second joint (first joint of Wood) is almost imperceptible; so that there seem at first sight to be only four, instead of five teeth.

17. *Thelyphonus seticauda*.

*Thelyphonus seticauda*, Doleschall, Natuurk. Tijdschr. voor Nederl. Indië, xiii. p. 404 (1857).

*Hab.* "Amboina" (Doleschall); Ceram (*Madame Ida Pfeiffer*). B.M.

18. *Thelyphonus lucanoides*, sp. n. Pl. XIII. fig. 6.

Closely allied to *T. seticauda*, but considerably larger and darker; the cephalothorax comparatively longer and narrower, with the fork of the median depression terminating also much further from its inferior edge; the abdomen more cylindrical and with less distinct marginal ridge; the cheliceres more distinctly punctured.

Length 1 inch 1 line.

*Hab.* Corea (*Arthur Adams, Esq.*). Two specimens. B.M.

A local representative of *T. seticauda*.

19. *Thelyphonus caudatus*.

*Phalangium caudatum*, Linnæus, Syst. Nat. 1, ii. p. 1029. n. 8 (1766)

Sulzer, Gesch. Ins. pl. 29. fig. 11 (1776).

*Tarantula caudata*, Fabricius, Ent. Syst. ii. p. 433. n. 2 (1793).

*Hab.* Madras (French rocks) (*Mrs. Hamilton, Vigors's coll., Mr. Jerdon*); Bengal (*Gen. Hardwicke*); Tenasserim (*J. C. D. V. Packman*); Ceylon (*E. W. Janson*). B.M.

A broad, well-marked form, having six teeth on second joint of cheliceres and a very depressed abdomen; it has been confounded with two, if not three, other species.

20. *Thelyphonus sinensis*, n. sp. Pl. XIII. fig. 7.

Allied to *T. caudatus*, but larger and blacker; cephalothorax comparatively longer; cheliceres duller and less rugose, second joint with all the teeth considerably longer, the third being most prominent.

Length 1 inch 7 lines.

*Hab.* Hongkong, from *J. C. Bowering, Esq.* B.M.

Unquestionably a local form of *T. caudatus*, but sufficiently different to require a distinctive name.

21. *Thelyphonus rufus*, n. sp. Pl. XIII. fig. 8.

Allied to *T. rufipes*, but much larger and entirely of a reddish-chestnut colour; the cheliceres much more coarsely



punctured, and with the external edge very setose; terminal segment of abdomen more transverse.

Length 1 inch 6 lines.

*Hab.* Locality unknown. B.M.

Looks, at first sight, like a red specimen of *T. sinensis*; but the sculpture, pilosity, and dentation of the cheliceres are quite different.

XXIX.—Notes on a new *Propithecus* and the *Fossane* from Madagascar. By Dr. J. E. GRAY, F.R.S. &c.

THE British Museum has lately received a number of mammalia from Madagascar collected by Mr. Crossley. The two following are quite new to the Museum collection, and, I believe, new to modern science.

1. *Propithecus bicolor*.

Black; middle of back and loins white, with a central black streak; brownish on the margin.

Madagascar.

The white on the back is marked with a more or less distinct, central, longitudinal black line, which is most distinct and extends nearly to the rump in one of the specimens.

In the other specimen, that has not this line so distinctly marked, the middle of the back is brownish. In both specimens the hinder part of the thigh is rather brown; the tail is slender, of an intense black, and about the length of the body.

The two specimens are very much alike in size and colour, and very different from the other three species in the Museum. They are very like *Indris brevicaudatus*; but they have a distinct tail, like the other *Propithecii*.

2. I have no doubt that this is the animal described by Buffon (*Hist. Nat.* xiii. p. 163, t. 21), received from M. Poivre, who sent it to the Academy of Sciences in 1761, but which of late has been unknown to naturalists. I was so satisfied from the description and figure that it was separate from the other known *Viverræ*, that in the '*Proc. Zool. Soc.*' for 1864 I established for it a genus of the name of *Fossa*; and this is repeated in the '*Catalogue of Carnivorous, Pachydermatous, and Edentate Mammalia in the British Museum*'; but various zoologists have decided that this was a mistake. The Museum has now received a male and a female and a skeleton of an animal that I have no doubt is the *Fossane*; and it proves to be a very distinct genus, having the soles of the